

# **EXHIBIT 1**



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Mr. McNair's opinion that "there is no tractable relationship between the value of the superframe counter and the hypothetical FEC codeword counter defined in the '835 patent that would allow the value of the hypothetical FEC codeword counter to be determined accurately based on the superframe counter value" is incorrect. Knowing the SFR value and S-value, "would allow the value of the hypothetical FEC codeword counter to be determined accurately based on the superframe counter value." Thus, it is my opinion that the SFR is an FEC codeword counter value and therefore the DRA\_Swap\_Request and DRA\_Swap\_Reply messages are not flag signals.

69. Additionally, the DRA\_Swap\_Request and DRA\_Swap\_Reply messages are not "flag signals," i.e., "signals used to indicate . . . ." Specifically, a POSITA would understand a flag signal to be a signal that has no information and where the information is derived from the context in which it is transmitted. For example, it is universally known that a white flag waved in a battle is a signal indicating surrender, while the same white flag waved in a Nascar® race is a signal indicating the last lap of the race. The flag signal only indicates; it contains no information. Not containing information and, instead, serving as an indicator from context is what makes a flag signal superior to a message. In the smoke of a battlefield, the surrendering party would not want to rely on his opponent being able to read "I surrender" on the flag. At 200 mph, a Nascar® driver would not be able to reliably read "this is the last lap."

70. The DRA\_Swap\_Request and DRA\_Swap\_Reply messages are not indicators. Rather, they contain information about the timing of parameter changes that must be decoded in order for both transceivers to coordinate changes to FIP settings. But, problematically, FIP settings are typically changed when significant channel impairments arise (e.g., increased noise or attenuation). Thus, because these messages do not indicate, but instead contain information, these messages are not reliable.

71. The flag signal disclosed and claimed in the Family 6 patents is able to serve as an indication of the timing of a switch because of the context in which it is transmitted: it is preceded by “a message indicating . . . the new FIP settings.” 835 patent at 19:19-20. “[A]t the predefined change time following the reception of the flag signal, the receiver commences reception utilizing the new FIP parameters.” *Id.* at 19:25-27. The patent specification further explains that “the flag signal could be an inverted sync symbol, or sync FLAG, as used in the ADSL2 G.992.3 OLR protocol.” *Id.* at 12:29-31. This example further confirms my opinion that a flag signal is required to be a signal that has no information and where the information is derived from the context in which it is transmitted. Specifically, the ADSL2 sync Flag is a signal that is transmitted to indicate a switch to a new configuration or power-state. *See* G.992.3 at §10 (Dynamic behavior). The same signal is transmitted with no different information, however the resulting behavior is based on the preceding messages or context.

72. In contrast, the DRA\_Swap\_Request and DRA\_Swap\_Reply messages include information and are specific to the particular rate adaptation. Specifically, the DRA\_Swap\_Request message includes command C0<sub>16</sub> and the DRA\_Swap\_Reply message includes command C0<sub>16</sub>. They also include the SFR value that specifies the superframe boundary. Accordingly, they are not flag signals because they include information that must be decoded in order to specify the timing of parameter changes.

73. Because the DRA\_Swap\_Request and DRA\_Swap\_Reply messages are not flag signals, G.992.1 cannot disclose the other elements of the claim that recite a flag signal.

**2. G.992.1 does not disclose switching occurs on a pre-defined forward error correction codeword boundary following the flag signal**

74. Mr. McNair contends that G.992.1 discloses this limitation. The SFR in G.992.1 “identif[ies] *around* which superframe boundary the rate swap will occur.” G.992.1 at p. 233. A

INPTraining states. *See* '835 at Fig. 2. Accordingly, the R-P-ISYNCRHO2 and O-P-ISYNCHRO2 signals are used to indicate when an updated FIP setting is to be used.

121. For the above mentioned reasons, in my opinion, a person having ordinary skill in the art would have understood the inventor to be in possession of an embodiment in which the transmitter sends a flag signal during initialization.

## **XI. Conclusions**

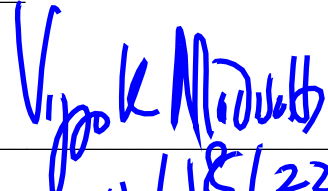
122. Based on the analysis above, it is my opinion that claim 10 of the 835 Patent is not invalid.

## **XII. Trial Exhibits**

123. I may rely on visual aids and/or demonstrative exhibits that illustrate the bases of my opinions and that may assist me in explaining the subject matter of my testimony. Examples of such visual aids or demonstrative exhibits include claims charts, excerpts from patents or publications, interrogatory responses, deposition testimony and exhibits, charts, diagrams, models, and animated or computer-generated presentations. In addition, I may rely on live demonstrations or video presentations of the Accused Products. These demonstrations may include use cases that show how the Accused Products meet the limitation(s) of the Asserted Claims. I have not yet prepared any exhibits for use at trial, but I expect to do so in accordance with any schedule governing demonstrative exhibits for trial.

I declare under penalty of perjury that the above is true and correct.

Executed on this 18<sup>th</sup> day of November 2022, in Johns Creek, GA

  
11/18/22